

romy (030) —

LANE 1

LANE 2

LANE 3

LANE 4

FIG. 1

LANE 1

LANE 2

LANE 3

LANE 4

LANE 5

LANE 6

romy (030) —

FIG. 4

romy030

GGTGCTGGAGTACCTCATGGGCGGTGCCCTACCGCTGCAACTACACTCGGAAAGCTTCGGACTCT
CTACAACAACCTTGTGTTGGCCCTAAGAGGGTAGAGCTCAGCAGACACACAGTGTCCCTGTGCCCTCCC
AGAGTAACATGTGGTTCCCTTGATGTGCTTCCCCAAAGCCCCACCTGTGCAGAATG

(SEQ ID NO: 1)

FIG. 2

AAGGAGGCTAGGCTGCACCCCTTCCCGCTTGCTCAGCAGCTGAGGCGGCTCAGAAAGCATGGNTAGAGAAAGACATTTTGGC 80
 AAAGGGAATGCNCTTTGTAAATTCCCAAGTACAAAGACCCCTAACAGATGTTGCTGGTTCAGCTCAGCTCAGCTAACCCAGCACAT 160
 CCCCCCTTGGCCGAGTGGGCTCCAGCACACAGGAGGACACCAAGCAGGACAGCAGCAGCAGTCCGGGAATGGTCTG 240
 TCAGCAACACACACCCAGAGCTACCCACACAGACTCCTATGGGATCTTGAATCCAGGGTGGGGTTACTCCANTAAAGCC 320

 ATG TAC ATC CGA GTC TCC TAC GAC ACC AAG CCA GAT TCC CTG CTG CAC CTC ATG GTG AAG 380
 M Y I R V S Y D T K P D S L L H L M V K 20

 GAC TGG CAG CTG GAG CTC CCG AAG CTC TTG ATA TCT GTG CAC GGA GGC CTC CAA AGC TTC 440
 D W Q L E L P K L L I S V H G G L Q S F 40

 GAG ATG CAG TCC AAA CTG AAG CAG GTG TTT GGG AAA GGT CTG ATC AAG GCT GCC ATG ACC 500
 E M Q S K L K Q V F G K G L I K A A M T 60

 ACG GGG GCG TGG ATC TTC ACC GGG GGT GTG AGC ACT GGT GTG GTC AGC CAT GTG GGG GAT 560
 T G A W I F T G G V S T G V V S H V G D 80

 GCC TTG AAA GAC CAC TCC AAG TCC AGA GGC CGG CTC TGT GCT ATA GGA ATT GCT CCC 620
 A L K D H S S K S R G R L C A I G I A P 100

 TGG GGC ATG GTG GAG AAC AAG GAA GAC CTG ATT GGA AAA GAT GTA ACA AGA GTC TAT CAG 680
 W G M V E N K E D L I G K D V T R V Y Q 120

 ACC ATG TCC AAC CCT CTG AGC AAG CTC TCT GTG CTC AAC AAT TCC CAC ACT CAC TTC ATC 740
 T M S N P L S K L S V L N N S H T H F I 140

 TTG GCT GAC AAC GGC ACC CTG GGC AAG TAT GGT GCT GAG GTG AAG CTT CGA AGA CAG CTG 800
 L A D N G T L G K Y G A E V K L R R Q L 160

 GAA AAA CAC ATC TCC CTG CAG AAG ATC AAC ACA AGG CTG GGC CAG GGT GTA CCT GTC GTG 860
 E K H I S L Q K I N T R L G Q G V P V V 180

 GGC CTA GTG GAA GGT GGT CCT AAC GTG GTT TCT ATC GTC CTG GAG TAT CTC AAA GAA 920
 G L V V E G G P N V V S I V L E Y L K E 200

FIG. 3A

GAC CCT CCT GTC CCT GTG GTG GTT TGC GAT GGC AGT GGA CGT GCC TCT GAC ATT TTG TCC	980
D P P V V V V C D G S G R A S D I L S	220
TTT GCA CAC AAA TAC TGC GAC GAA GGA GTC ATA AAC GAG TCC CTG CGG GAC CAG CTT	1040
F A H K Y C D E G G V I N E S L R D Q L	240
CTA GTT ACC ATT CAG AAA ACA TTT AAT TAC AGC AAG TCC CAG TCG TAT CAG CTG TTT GCA	1100
L V T I Q K T F N Y S K S Q S Y Q L F A	260
ATT ATC ATG GAG TGC ATG AAG AAG AAA GAA CTC GTC ACT GTG TTT CGG ATG GGT TCC GAG	1160
I I M E C M K K K E L V T V F R M G S E	280
GGT CAG CAA GAT GTC GAG ATG GCA ATT TTA ACT GCC TTG CTC AAA GGA ACC AAC GCA TCA	1220
G Q Q D V E M A I L T A L L K G T N A S	300
GCT CCA GAT CAG CTG AGC TTG GCC CTG GCT TGG AAC CGG GTC GAC ATA GCG CGA AGC CAG	1280
A P D Q L S L A L A W N R V D I A R S Q	320
ATC TTC GTC TTT GGC CCA CAC TGG CCG CCA CTG GGA AGC CTG GCC CCT CCT GTG GAC ACC	1340
I F V F G P H W P P P L G S L A P P V D T	340
AAA GCC GCA GAG AAG GAA AAG AAG CCA CCC ACA GCC ACC ACC AAG GGG AGA GGA AAA GGA	1400
K A A E K E K K P P T A T T K G R G K G	360
AAA GGC AAG AAG AAA GGC AAA GTG AAA GAG GAA GTG GAG GAA GAG ACG GAC CCC CGG AAG	1460
K G K K K G K V K E E V E E E T D P R K	380

FIG. 3B

CTT GAG CTG CTC AAC TGG GTG AAT GCC CTG GAG CAA GCC ATG CTG GAT GCT CTT GTC CTA 1520
 L E L L N W V N A L E Q A M L D A L V L 400

 GAT CGG GTG GAC TTT GTA AAG CTC CTG ATT GAA AAC GGA GTG AAC ATG CAG CAT TTC CTC 1580
 D R V D F V K L L L I E N G V N M Q H F L 420

 ACC ATC CCG AGG CTG GAG GAG CTA TAC AAC ACC AGA CTG GGC CCA CCA AAC ACC CTT CAT 1640
 T I P R L E E L Y N T R L G P P N T L H 440

 CTG CTG GTG CGG GAT GTA AAG AAG AGC AAC CTT CCA CCT GAT TAC CAC ATC AGC CTC ATT 1700
 L L V R D V K K S N L P P D Y H I S L I 460

 GAT ATA GGA CTG GTG GAG TAC CTC ATG GGC GGT GCC TAC CGC TGC AAC TAC ACT CGG 1760
 D I G L V L E Y L M G G A Y R C N Y T R 480

 AAA AGC TTC CGG ACT CTC TAC AAC AAC TTG TTT GGC CCT AAG AGG GTA GAG CTC AGC AGA 1820
 K S F R T L Y N N L F G P K R V E L S R 500

 CAC ACA GTG TCC TGT GCC TCC CAG AGT AAC ATG TGG TTC CTT GAT GTG CTT CCC CAA AAG 1880
 H T V S C A S Q S N M W F L D V L P Q K 520

 CCC ACC TGT GCA GAA TGC AAC TCT TCA CCT CAC CTG TCC CAA ACT GAC ATC ACC CCA CCT 1940
 P T C A E C N S S P H L S Q T D I T P P 540

 CTG CCC TGA CACCCAGTGCAGGGCCCTCCTAGCTTTCACATGCAGCCATTACATCGGCCCTCAAGACTGGGCCAGGC 2018
 L P * (SEQ ID NO: 3)

 AGTGC AACCTGTCAAGCATGTCTGTCTCCCTCTCTCTACATAGCCCCCTCTGGGCCCATGCTCTGCTCTCTC 2098
 AGCCCGTCTCTCTCCACATGATCACTGGCGCTCTGTGTCTTCCAGGCAAGGAACAAGAAAGCATCTTTTGCCC 2178
 ACAAAAGTTTAGGGCTCCCGCTGTCAACCATAGCCAACTCACTGTACATCGGAGTCATCCAGGCCAGCTGCCACACA 2258
 CAAAGCTTCCCCACCTATCCCAATAGACCTATCTCTCCATCAAAATCAAGTAACTCTGGCTGCCACATGTCTTC 2338
 TTCTTGTCTCCAGCTGTAAACCTCCAATAAATGTACAGATCTGTGGGAAGCTTCTCTCACTCTCACTCCACAGTTGTAC 2418
 AGAGCGGAGAGCCTCGTTTGGTTCTACTTACAAGGAAGGCTTGTGTCTGTCTCTTCCCAACTGACTTCTGTGAC 2498
 AGAAGCAGTTTCCACATGAAGCGTTGACTCACCCTGGATGTGTGATTAATTAATAGTGATACAAAATATTGACACTTCT 2578
 TTTCTGCTCTTTGTATGCGAGCCGAAGCAGCTTAAGCTTCTGGGAATGGAAGTAAGTAGGACATGTTTGTGGCAGTTT 2658
 ATTTACTATATATACCTTTGTGTCATCTCTGTGAAGCAAAAATGCAATGTTTTCATGAATAAAGCTCGTGCC 2730
 (SEQ ID NO: 2)

FIG. 3C

ACTCATTTATAGGNTTCAGCGCGCGCGCGGAGGTTTGAGCTGTGCCCCCTCTCCATTCACACTGCTGTGGCAGGGTCAGA
 AATCTTGGATAGAGAAAACCTTTTGCAAAACGGGAATGTATCTTTGTAATTCCTAGCACGAAAGACTCTAACAGGTGTG
 CTGTGGCCAGTTTCACCAACCAAGCATATCCCCCTCTGCCAAGTCAACACCCAGCAAAAATGAAGAGGAAAGCAAAACAG
 GTGGAGACTCAGCCTGAGAAATGGTCTGTGTGCAAGCACACCCAGAGCTACCCAAACAGATTCCTATGGAGTTCTTTGAATT
 CCAGGGTGGCGGATATTCCAATAAAGCC

M Y I R V S Y D T K P D S L L H L M V K 20
 ATG TAT ATC CGT GTA TCC TAT GAC ACC AAG CCA GAC TCA CTG CTC CAT CTC ATG GTG AAA 60

D W Q L E L P K L L I S V H G G L Q N F 40
 GAT TGG CAG CTG GAA CTC CCC AAG CTC TTA ATA TCT GTG CAT GGA GGC CTC CAG AAC TTT 120

E M Q P K L K Q V F G K G L I K A A M T 60
 GAG ATG CAG CCC AAG CTG AAA CAA GTC TTT GGG AAA GGC CTG ATC AAG GCT GCT ATG ACC 180

T G A W I F T G G V S T G V I S H V G D 80
 ACC GGG GCC TGG ATC TTC ACC GGG GGT GTC AGC ACA GGT GTT ATC AGC CAC GTA GGG GAT 240

A L K D H S S K S R G R V C A I G I A P 100
 GCC TTG AAA GAC CAC TCC TCC AAG TCC AGA GGC CGG GTT TGT GCT ATA GGA ATT GCT CCA 300

W G I V E N K E D L V G K D V T R V Y Q 120
 TGG GGC ATC GTG GAG AAT AAG GAA GAC CTG GTT GGA AAG GAT GTA ACA AGA GTG TAC CAG 360

T M S N P L S K L S V L N N S H T H F I 140
 ACC ATG TCC AAC CCT CTA AGT AAG CTC TCT GTG CTC AAC AAC TCC CAC ACC CAC TTC ATC 420

L A D N G T L G K Y G A E V K L R R L L 160
 CTG GCT GAC AAT GGC ACC CTG GGC AAG TAT GGC GCC GAG GTG AAG CTG CGA AGG CTG CTG 480

E K H I S L Q K I N T R L G Q G V P L V 180
 GAA AAG CAC ATC TCC CTC CAG AAG ATC AAC ACA AGA CTG GGG CAG GGC GTG CCC CTC GTG 540

G L V V E G G P N V V S I V L E Y L Q E 200
 GGT CTC GTG GTG GAG GGG GGC CCT AAC GTG GTG TCC ATC GTG TGC TTTG GAA TAC CTG CAA GAA 600

FIG. 5A

E P P I P V V I C D G S G R A S D I L S	220
GAG CCT CCC ATC CCT GTG GTG ATT TGT GAT GGC AGC GGA CGT GCC TCG GAC ATC CTG TCC	660
F A H K Y C E E G G I I N E S L R E V L	240
TTT GCG CAC AAG TAC TGT GAA GAA GGC GGA ATA ATA AAT GAG TCC CTC AGG GAG CAG CTT	720
L V T I Q K T F N Y N K A Q S H Q L I A	260
CTA GTT ACC ATT CAG AAA ACA TTT AAT TAT AAT AAG GCA CAA TCA CAT CAG CTG TTT GCA	780
I I M E C M K K K E L V T V F R M G S E	280
ATT ATA ATG GAG TGC ATG AAG AAG AAA GAA CTA CTC ACT GTG TTC AGA ATG GGT TCT GAG	840
G Q Q D I E M A I L T A L L K G T N V S	300
GGC CAG CAG GAC ATC GAG ATG GCA ATT TTA ACT GCC CTG CTG AAA GGA ACA AAC GTA TCT	900
A P D Q L S L A L A W N R V D I A R S Q	320
GCT CCA GAT CAG CTG AGC TTG GCA CTG GCT TGG AAC CGC GTG GAC ATA GCA CGA AGC CAG	960
I F V F G P H W T P L G S L A P P T D S	340
ATC TTT GTC TTT GGG CCC CAC TGG ACG CCC CTG GGA AGC CTG GCA CCC CCG ACC GAA AGC	1020
K A T E K E K K P P M A T T K G G R G K	360
AAA GCC ACG GAG AAG GAG AAG CCA CCC ATG GCC ACC ACC AAG GGA GGA AGA GGA AAA	1080
G K G K K K G K V K E E V E E T D P R	380
GGG AAA GGC AAG AAG AAA GGG AAA GTG AAA GAG GAA GTG GAG GAA GAA ACT GAC CCC CGG	1140
K I E L L N W V N A L E Q A M L D A L V	400

FIG. 5B

AAG ATA GAG CTG AAC TGG GTG AAT GCT TTG GAG CAA GCG ATG CTA GAT GCT TTA GTC 1200
L D R V D F V K L L I E N G V N M Q H F 420
TTA GAT CGT GTC GAC TTT GTG AAG CTC CTG ATT GAA AAC GGA GTG AAC ATG CAA CAC TTT 1260
L T I P R L E E L Y N T R L G P P H T L 440
CTG ACC ATT CCG AGG CTG GAG GAG CTT TAT AAC ACA AGA CTG GGT CCA CCA AAC ACA CTT 1320
H L L V R D V K K S N L P P D Y H I S L 460
CAT CTG CTG AGG GAT GTG AAA AAG AGC AAC CTT CCG CCT GAT TAC CAC ATC AGC CTC 1380
I D I G L V L E Y L M G G A Y R C H Y T 480
ATA GAC ATC GGG CTC GTG CTG GAG TAC CTC ATG GGA GGA GCC TAC CGC TGC AAC TAC ACT 1440
R K N F R T L Y N N L F G P K R P K A L 500
CGG AAA AAC TTT CGG ACC CTT TAC AAC AAC TTG TTT GGA CCA AAG AGG CCT AAA GCT CTT 1500
K L L G M E D D E P P A K G K K K K K 520
AAA CTT CTG GGA ATG GAA GAT GAT GAT GAT GAT GAT GAT GAT GAT GAT GAT GAT GAT GAT 1560
K K E E E I D I D V D D P A V S R F Q Y 540
AAA AAG GAG GAA GAG ATC GAC ATT GAT GTG GAC GAC CCT GCC GTG AGT CGG TTC CAG TAT 1620
P F H E L M V W A V L M K R Q K M A V F 560
CCC TTC CAC GAG CTG ATG GTG TGG GCA GTG CTG ATG AAA CGC CAG AAA ATG GCA GTG TTC 1680
L W Q R G E E S M A K A L V A C K L Y K 580
CTC TGG CAG CGA GGG GAA GAG AGC ATG GCC AAG CCC CTG GTG GCC TGC AAG CTC TAC AAG 1740
A M A H E S S E S D L V D D I S Q D L D 600
GCC ATG GCC CAC GAG TCC TCC GAG AGT GAT CTG GTG GAT GAC ATC TCC CAG GAC TTG GAT 1800
N N S K D F G Q L A L E L L D Q Q S Y K H 620
AAC AAT TCC AAA GAC TTC GGC CAG CTT GCT TTG GAG TTA TTA GAC CAG TCC TAT AAG CAT 1860

FIG. 5C

D E Q I A M K L L T Y E L K N W S N S T 640
 GAC GAG CAG ATC GCT ATG AAA CTC CTG ACC TAC GAG CTG AAA AAC TGG AGC AAC TCG ACC 1920

 C L K L A V A A K H R D F I A H T C S Q 660
 TGC CTC AAA CTG GCC GTG GCA GCC AAA CAC CGG GAC TTC ATT GCT CAC ACC TGC AGC CAG 1980

 M L L T D M W M G R L R M R K N P G L K 680
 ATG CTG CTG ACC GAT ATG TGG ATG GGA AGA CTG CGG ATG CGG AAG AAC CCC GGC CTG AAG 2040

 V I M G I L L P P T I L F L E F R T Y D 700
 GTT ATC ATG GGG ATT CTT CTA CCC ACC ATC TTG TTT TTG GAA TTT CGC ACA TAT GAT 2100

 D F S Y Q T S K E N E D G K E K E E N 720
 GAT TTC TCG TAT CAA ACA TCC AAG GAA AAC GAG GAT GGC AAA GAA AAA GAG GAA AAT 2160

 T D A N A D A G S R K G D E E N E H K K 740
 ACG GAT GCA AAT GCA GAT GCT GGC TCA AGA AAG GGG GAT GAG GAG AAC GAG CAT AAA AAA 2220

 Q R I I P I G T K I C K F Y N A P I V K 760
 CAA AGA ATT ATC CCC ATC GGA ACA AAA ATC TGT AAA TTC TAT AAC CCG CCC ATT GTC AAG 2280

 F W F Y T I S Y L G Y L L L F N Y V I L 780
 TTC TGG TTT TAC ACA ATA TCA TAC TTG GGC TAC CTG CTG CTG TTT AAC TAC GTC ATC CTG 2340

 V R M D G W P S L Q E W I V I S Y I V S 800
 GTG CCG ATG GAT GGC TGG CCG TCC CTC CAG GAG TGG ATC GTC ATC TCC TAC ATC GTG AGC 2400

 L A L E K I R E I L M S E P G K L S Q K 820
 CTG GCG TTA GAG AAG ATA CGA GAG ATC CTC ATG TCA GAA CCA GGC AAA CTC AGC CAG AAA 2460

FIG. 5D

I K V W L Q E Y W N I T D L V A I S T F	840
ATC AAA GTT TGG CTT CAG GAG TAC TGG AAC ATC ACA GAT CTC GTG GCC ATT TCC ACA TTC	2520
M I G A M A T R S V M M I G K M M I D M	860
ATG ATT GGA GCA ATG GCC ACG AGA TCT GTG ATG ATG ATT GGA AAG ATG ATG ATC GAC ATG	2580
L Y F V V I M L L V V L M S F G V A R Q A	880
CTG TAC TTT GTG GTC ATC ATG CTG ATG CTC GTG CTC AGT TTC GGA GTA GCC CGT CAA GCC	2640
I L H P E E K P S W K L A R N I F Y M P	900
ATT CTG CAT CCA GAG GAG AAG CCC TCT TGG AAA CTG GCC CGA AAC ATC TTC TAC ATG CCC	2700
Y W M I Y G E V F A D Q I D L Y A M E I	920
TAC TGG ATG ATC TAT GGA GAG GTG TTT GCA GAC ATA GAC CTC TAC GCC ATG GAA ATT	2760
N P P C G E N L Y D E E G K R L P P C I	940
AAT CCT CCT TGT GGT GAG AAC CTA TAT GAT GAG GGC AAG CGG CTT CCT CCC TGT ATC	2820
P G A W L T P A L M A C Y L L V A N I L	960
CCC GGC GCC TGG CTC ACT CCA GCA CTC ATG GCG TGC TAT CTA CTG GTC GCC AAC ATC CTG	2880
L V N L L I A V F N N T F F E V K S I S	980
CTG GTG AAC CTG CTG ATT GCT GTG TTC AAC AAT ACC TTC TTT GAA GTA AAA TCA ATA TCC	2940
N Q V W K F Q R Y Q L I M T F H D R P V	1000
AAC CAG GTG TGG AAG TTC CAG CGA TAT CAG CTG ATT ATG ACA TTT CAT GAC AGG CCA GTC	3000
L P P P M I I L S H I Y I I M R L S G	1020
CTG CCC CCA CCG ATG ATC ATT TTA AGC CAC ATC TAC ATC ATC ATT ATG CGT CTC AGC GGC	3060
R C R K K R E G D Q E E R D R G L K L F	1040
CGC TGC AGG AAA AAG AGA GAA GGG GAC CAA GAG GAA CCG GAT CGT GGA TTG AAG CTC TTC	3120

FIG. 5E

L S D E E L K R L H E F E Q C V Q E H 1060
 CTT AGC GAC GAG CTA AAG AGG CTG CAT GAG TTC GAG GAG CAG TGC GTG CAG GAG CAC 3180
 F R E K E D E Q Q S S S D E R I R V T S 1080
 TTC CGG GAG AAG GAG GAT GAG CAG CAG TCG TCC AGC GAC GAG CGC ATC CGG GTC ACT TCT 3240
 E R V E N M S M R L E E I N E R E T F M 1100
 GAA AGA GTT GAA AAT ATG TCA ATG AGG TTG GAA GAA ATC AAT GAA AGA GAA ACT TTT ATG 3300
 K T S L Q T V D L R L A Q L E E L S N R 1120
 AAA ACT TCC CTG CAG ACT GTT GAC CTT CGA CTT GCT CAG CTA GAA GAA TTA TCT AAC AGA 3360
 M V N A L E N L A G I D R S D L I Q A R 1140
 ATG GTG AAT GCT CTT GAA AAT CTT GCG GGA ATC GAC AGG TCT GAC CTG ATC CAG GCA CGG 3420
 S R A S S E C E A T Y L L R Q S S I N S 1160
 TCC CGG GCT TCT TCT GAA TGT GAG GCA ACG TAT CTT CTC CGG CAA AGC AGC ATC AAT AGC 3480
 A D G Y S L Y R Y H F N G E E L L F E D 1180
 GCT GAT GGC TAC AGC TTG TAT CGA TAT CAT TTT AAC GGA GAA GAG TTA TTA TTT GAG GAT 3540
 T S L S T S P G T G V R K K T C S F R I 1200
 ACA TCT CTC TCC ACG TCA CCA GGG ACA GGA GTC AGG AAA ACC TGT TCC TTC CGT ATA 3600
 K E E K D V K T H L V P E C Q N S L H L 1220
 AAG GAA GAG AAG GAC GTG AAA ACG CAC CTA GTC CCA GAA TGT CAG AAC AGT CTT CAC CTT 3660
 S L G T S T S A T P D G S H L A V D D L 1240
 TCA CTG GGC ACA AGC ACA TCA GCA ACC CCA GAT GGC AGT CAC CTT GCA GTA GAT GAC TTA 3720

FIG. 5F

K N A E E S K L G P D I G I S K E D D E 1260
AAG AAC GCT GAA GAG TCA AAA TTA GGT CCA GAT ATT GGG ATT TCA AAG GAA GAT GAT GAA 3780

R Q T D S K K E E T I S P S L N K T D V 1280
AGA CAG ACA GAC TCT AAA AAA GAA GAA ACT ATT TCC CCA AGT TTA AAT AAA ACA GAT GTG 3840

I H G Q D K S D V Q N T Q L T V E T T N 1300
ATA CAT GGA CAG GAC AAA TCA GAT GTT CAA AAC ACT CAG CTA ACA GTG GAA ACG ACA AAT 3900

I E G T I S Y P L E E T K I T R Y F P D 1320
ATA GAA GGC ACT ATT TCC TAT CCC CTG GAA GAA ACC AAA ATT ACA CGC TAT TTC CCC GAT 3960

E T I N A C K T M K S R S F V Y S R G R 1340
GAA ACG ATC AAT GCT TGT AAA ACA ATG AAG TCC AGA AGC TTC GTC TAT TCC CGG GGA AGA 4020

K L V G G V N Q D V E Y S S I T D Q Q L 1360
AAG CTG GTC GGT GGG GTT AAC CAG GAT GTA GAG TAC AGT TCA ATC ACG GAC CAG CAA TTG 4080

T T E W Q C Q V Q K I T R S H S T D I P 1380
ACG ACG GAA TGG CAA TGC CAA GTT CAA AAG ATC ACG CGC TCT CAT AGC ACA GAT ATT CCT 4140

Y I V S E A A V Q A E Q K E Q F A D M Q 1400
TAC ATT GTG TCG GAA GCT GCA GTG CAA GCT GAG CAA AAA GAG CAG TTT GCA GAT ATG CAA 4200

D E H H V A E A I P R I P R L S L T I T 1420
GAT GAA CAC CAT GTC GCT GAA GCA ATT CCT CGA ATC CCT CGC TTG TCC CTA ACC ATT ACT 4260

D R N G M E N L L S V K P D Q T L G F P 1440
GAC AGA AAT GGG ATG GAA AAC TTA CTG TCT GTG AAG CCA GAT CAA ACT TTG GGA TTC CCA 4320

S L R S K S L H G H P R N V K S I Q G K 1460
TCT CTC AGG TCA AAA AGT TTA CAT GGA CAT CCT AGG AAT GTG AAA TCC ATT CAG GGA AAG 4380

L D R S G H A S S V S L V I V S G M T 1480
TTA GAC AGA TCT GGA CAT GCC AGT AGT GTA AGC AGC TTA GTA ATT GTG TCT GGA ATG ACA 4440

A E E K K V K K E K A S T E T E C (SEQ ID NO: 7) 1497
GCA GAA GAA AAA AAG GTT AAG AAA GAG AAA GCT TCC ACA GAA ACT GAA TGC TAG TCTGTT 4991

TTGTTTCTTTAATTTTTTTTTTAACAGTCAGAACCACTAATGGGTGTCATCTTGGCCATCCTAAACATCCATCCAAT

TTCTCTAAAAACATTTTCCCT

(SEQ ID NO: 6)

FIG. 5G

ACTCATTATAGGNTCAGCGCGCGCGGGAGTTTGAGCTGTGCCCTCTCCATTCCACTGCTGTGGCAGGGTCAGA
 AATCTTGGATAGAGAAACCTTTTGCAAACGGGAATGTATCTTTGTAATTCCTAGCACGAAAGACTCTAAACAGGTGTG
 CTGTGGCCAGTTTCAACACAGCATATCCCCCTCTGCCAAGTGCACACCCAGCAAAAATGAAGAGGAAAGCAAAACAG
 GTGGAGACTCAGCCTGAGAAATGGTCTGTGCAAGCACACCCAGAGCTACCCCAACAGATTCCTATGGAGTTCTTTGAATT
 CCAGGGTGGCGGATATTCACATAAAGCC

M	Y	I	R	V	S	Y	D	T	K	P	D	S	L	L	H	L	M	V	K	20
ATG	TAT	ATC	CGT	GTA	TCC	TAT	GAC	ACC	AAG	CCA	GAC	TCA	CTG	CTC	CAT	CTC	ATG	GTG	AAA	60
D	W	Q	L	E	L	P	K	L	L	L	I	S	V	H	G	G	L	Q	N	40
GAT	TGG	CAG	CTG	GAA	CTC	CCC	AAG	CTC	TTA	ATA	TCT	GTG	CAT	GGA	GGC	CTC	CAG	AAC	TTT	120
E	M	Q	P	K	L	K	Q	V	F	G	K	G	L	I	K	A	A	N	T	60
GAG	ATG	CAG	CCC	AAG	CTG	AAA	CAA	GTC	TTT	GGG	AAA	GGC	CTG	ATC	AAG	GCT	GCT	ATG	ACC	180
T	G	A	W	I	F	T	G	G	V	S	T	G	V	I	S	H	V	G	D	80
ACC	GGG	GCC	TGG	ATC	TTC	ACC	GGG	GGT	GTC	AGC	ACA	GGT	GTT	ATC	AGC	CAC	GTA	GGG	GAT	240
A	L	K	D	H	S	S	K	S	R	G	R	V	C	A	I	G	I	A	P	100
GCC	TTG	AAA	GAC	CAC	TCC	TCC	AAG	TCC	AGA	GGC	CGG	GTT	TGT	GCT	ATA	GGA	ATT	GCT	CCA	300
W	G	I	V	E	N	K	E	D	L	V	G	K	D	V	T	R	V	Y	Q	120
TGG	GGC	ATC	GTG	GAG	AAT	AAG	GAA	GAC	CTG	GTT	GGA	AAG	GAT	GTA	ACA	AGA	GTG	TAC	CAG	360
T	M	S	N	P	L	S	K	L	S	V	L	N	N	S	H	T	H	F	I	140
ACC	ATG	TCC	AAC	CCT	CTA	AGT	AAG	CTC	TCT	GTG	CTC	AAC	AAC	TCC	CAC	ACC	CAC	TTC	ATC	420
L	A	D	N	G	T	L	G	K	Y	G	A	E	V	K	L	R	R	L	L	160
CTG	GCT	GAC	AAT	GGC	ACC	CTG	GGC	AAG	TAT	GGC	GCC	GAG	GTG	AAG	CTG	CGA	AGG	CTG	CTG	480
E	K	H	I	S	L	Q	K	I	N	T	R	L	G	Q	G	V	P	L	V	180
GAA	AAG	CAC	ATC	TCC	CTC	CAG	AAG	ATC	AAC	ACA	AGA	CTG	GGG	CAG	GGC	GTG	CCC	TTC	GTG	540
G	L	V	V	E	G	G	P	N	V	V	S	I	V	L	E	Y	L	Q	E	200
GGT	CTC	GTG	GTG	GAG	GGG	GGC	CCT	AAC	GTG	GTG	TCC	ATC	GTC	TTG	GAA	TAC	CTG	CAA	GAA	600

FIG. 6A

E P P I P V V I C D G S G R A S D I L S	220
GAG CCT CCC ATC CCT GTG GTG ATT TGT GAT GGC AGC GGA CGT TCG GAC ATC CTG TCC	660
F A H K Y C E E G G I I N E S L R E Q L	240
TTT GCG CAC AAG TAC TGT GAA GAA GGC GGA ATA ATA AAT GAG TCC CTC AGG GAG CAG CTT	720
L V T I Q K T F N Y N K A Q S H Q L F A	260
CTA GTT ACC ATT CAG AAA ACA TTT AAT TAT AAT AAG GCA CAA TCA CAT CAG CTG TTT GCA	780
I I M E C M K K K E L V T V F R M G S E	280
ATT ATA ATG GAG TGC ATG AAG AAG AAA GAA CTC GTC ACT GTG TTC AGA ATG GGT TCT GAG	840
G Q Q D I E M A I L T A L L K G T N V S	300
GGC CAG CAG GAC ATC GAG ATG GCA ATT TTA ACT GCC CTG CTG AAA GGA ACA AAC GTA TCT	900
A P D Q L S L A L A W N R V D I A R S Q	320
GCT CCA GAT CAG CTG AGC TTG GCA CTG GCT TGG AAC CGC GTG GAC ATA GCA CGA AGC CAG	960
I F V F G P H W T P L G S L A P P T D S	340
ATC TTT GTC TTT GGG CCC CAC TGG ACG CCC CTG GGA AGC CTG GCA CCC CCG ACG GAC AGC	1020
K A T E K E K K P P M A T T K G G R G K	360
AAA GCC ACG GAG AAG GAG AAG CCA CCC ATG GCC ACC AAG GGA GGA AGA GGA AAA	1080
G K G K K K G K V K E E V E E T D P R	380
GGG AAA GGC AAG AAG AAA GGG AAA GTG AAA GAG GAA GTG GAG GAA ACT GAC CCC CGG	1140
K I E L L N W V N A L E Q A M L D A L V	400

FIG. 6B

AAG ATA GAG CTG AAC TGG GTG AAT GCT TTG GAG CAA GCG ATG CTA GAT GCT TTA GTC 1200
L D R V D F V K L L I E N G V N M Q H F 420
TTA GAT CGT GTC GAC TTT GTG AAG CTC CTG ATT GAA AAC GGA GTG AAC ATG CAA CAC TTT 1260
L T I P R L E E L Y N T R L G P P I T L 440
CTG ACC ATT CCG AGG CTG GAG GAG CTT TAT AAC ACA AGA CTG GGT CCA CCA AAC ACA CTT 1320
H L L V R D V K K S N L P P D Y H I S L 460
CAT CTG CTG GTG AGG GAT GTG AAA AAG AGC AAC CTT CCG CCT GAT TAC CAC ATC AGC CTC 1380
I D I G L V L E Y L M G G A Y R C N Y T 480
ATA GAC ATC GGG CTC GTG CTG GAG TAC CTC ATG GGA GGA GCC TAC CGC TGC AAC TAC ACT 1440
R K N F R T L Y N N L F G P K R P K A L 500
CGG AAA AAC TTT CGG ACC CTT TAC AAC AAC TTG TTT GGA CCA AAG AGG CCT AAA GCT CTT 1500
K L L G M E D D E P P A K G K K K K K 520
AAA CTT CTG GGA ATG GAA GAT GAT GAT GAT CCT CCA GCT AAA GGG AAG AAA AAA AAA AAG 1560
K K E E E I D I D V D D P A V S R F Q Y 540
AAA AAG GAG GAA GAG ATC GAC ATT GAT GTG GAC GAC CCT GCC GTG AGT CGG TTC CAG TAT 1620
P F H E L M V W A V L M K R Q K M A V F 560
CCC TTC CAC GAG CTG ATG GTG TGG GCA GTG CTG ATG AAA CGC CAG AAA ATG GCA GTG TTC 1680
L W Q R G E E S M A K A L V A C K L Y K 580
CTC TGG CAG CGA GGG GAA GAG AGC ATG GCC CTG GTG GCC TGC AAG CTC TAC AAG 1740
A M A H E S S E S D L V D D I S Q D L D 600
GCC ATG GCC CAC GAG TCC TCC GAG AGT GAT CTG GTG GAT GAC ATC TCC CAG GAC TTG GAT 1800
N N S K D F G Q L A L E L L D Q Q S Y K H 620
AAC AAT TCC AAA GAC TTC GGC CAG CTT GCT TTG GAG TTA TTA GAC CAG TCC TAT AAG CAT 1860

FIG. 6C

D E Q I A M K L L T Y E L K N W S N S T	640
GAC GAG CAG ATC GCT ATG AAA CTC CTG ACC TAC GAG CTG AAA AAC TGG AGC AAC TCG ACC	1920
C L K L A V A A K H R D F I A H T C S Q	660
TGC CTC AAA CTG GCC GTG GCA GCC AAA CAC CGG GAC TTC ATT GCT CAC ACC TGC AGC CAG	1980
M L L T D M W M G R L R M R K N P G L K	680
ATG CTG ACC GAT ATG TGG ATG GGA AGA CTG CGG ATG CGG AAG AAC CCC GGC CTG AAG	2040
V I M G I L L P P T I L F L E F R T Y D	700
GTT ATC ATG GGG ATT CTT CTA CCC ACC ATC TTG TTT TTG GAA TTT CGC ACA TAT GAT	2100
D F S Y Q T S K E N E D G K E K E E E H	720
GAT TTC TCG TAT CAA ACA TCC AAG GAA AAC GAG GAT GGC AAA GAA GAG GAA AAT	2160
T D A N A D A G S R K G D E E N E H K K	740
ACG GAT GCA AAT GCA GAT GCT GGC TCA AGA AAG GGG GAT GAG GAG AAC GAG CAT AAA AAA	2220
Q R I I P I G T K I C K F Y N A P I V K	760
CAA AGA ATT ATC CCC ATC GGA ACA AAA ATC TGT AAA TTC TAT AAC GCG CCC ATT GTC AAG	2280
F W F Y T I S Y L L G Y L L L F N Y V I L	780
TTC TGG TTT TAC ACA ATA TCA TAC TTG GGC TAC CTG CTG CTG TTT AAC TAC GTC ATC CTG	2340
V R M D G W P S L Q E W I V I S Y I V S	800
GTG CGG ATG GAT GGC TGG CCG TCC CTC CAG GAG TGG ATC GTC ATC TCC TAC ATC GTG AGC	2400
L A L E K I R E I L M S E P G K L S Q K	820
CTG GCG TTA GAG AAG ATA CGA GAG ATC CTC ATG TCA GAA CCA GGC AAA CTC AGC CAG AAA	2460

FIG. 6D

I K V W L Q E Y W N I T D L V A I S T F	840
ATC AAA GTT TGG CTT CAG GAG TAC TGG AAC ATC ACA GAT CTC GTG GCC ATT TCC ACA TTC	2520
M I G A I L R L Q N Q P Y M G Y G R V I	860
ATG ATT GGA GCA ATT CTT CGC CTA CAG AAC CAG CCC TAC ATG GGC TAT GGC CGG GTG ATC	2580
Y C V D I I F W Y I R V L D I F G V N K	880
TAC TGT GTG GAT ATC ATC TTC TGG TAC ATC CGT GTC CTC GAC ATC TTT GGT GTC AAC AAG	2640
Y L G P Y V M M I G K M M I D M L Y F V	900
TAT CTG GGG CCA TAC GTG ATG ATG ATT GGA AAG ATG ATG ATC GAC ATG CTG TAC TTT GTG	2700
V I M L V V L M S F G V A R Q A I L H P	920
GTC ATC ATG CTG GTC CTC ATG AGT TTC GGA GTA GCC CGT CAA GCC ATT CTG CAT CCA	2760
E E K P S W K L A R N I F Y M P Y W M I	940
GAG GAG AAG CCC TCT TGG AAA CTG GCC CGA AAC ATC TTC TAC ATG CCC TAC TGG ATG ATC	2820
Y G E V F A D Q I D L Y A M E I N P P C	960
TAT GGA GAG GTG TTT GCA GAC CAG ATA GAC CTC TAC GCC ATG GAA ATT AAT CCT CCT TGT	2880
G E N L Y D E E G K R L P P C I P G A W	980
GGT GAG AAC CTA TAT GAT GAG GAG GGC AAG CGG CTT CCT CCC TGT ATC CCC GGC GCC TGG	2940
L T P A L M A C Y L L V A N I L L V N L	1000
CTC ACT CCA GCA CTC ATG GCG TGC TAT CTA CTG GTC GCC AAC ATC CTG CTG GTG AAC CTG	3000
L I A V F N N T F F E V K S I S N Q V W	1020
CTG ATT GCT GTG TTC AAC AAT ACT TTC TTT GAA GTA AAA TCA ATA TCC AAC CAG GTG TGG	3060
K F Q R Y Q L I M T F H D R P V L P P	1040
AAG TTC CAG CGA TAT CAG CTG ATT ATG ACA TTT CAT GAC AGG CCA GTC CTC CCC CCA CCG	3120

FIG. 6E

M I I L S H I I Y I I I M R L S G R C R K	1060
ATG ATC ATT TTA AGC CAC ATC TAC ATC ATC ATT ATG CGT CTC AGC GGC CGC TGC AGG AAA	3180
K R E G D Q E E R D R G L K L F L S D E	1080
AAG AGA GAA GGG GAC CAA GAG GAA CGG GAT CGT GGA TTG AAG CTC TTC CTT AGC GAC GAG	3240
E L K R L H E F E E Q C V Q E H F R E K	1100
GAG CTA AAG AGG CTG CAT GAG TTC GAG GAG CAG TGC GTG CAG GAG CAC TTC CGG GAG AAG	3300
E D E Q Q S S S D E R I R V T S E R V E	1120
GAG GAT GAG CAG CAG TCG TCC AGC GAC GAG CGC ATC CGG GTC ACT TCT GAA AGA GTT GAA	3360
N M S M R L E E I N E R E T F M K T S L	1140
AAT ATG TCA ATG AGG TTG GAA GAA ATC AAT GAA AGA GAA ACT TTT ATG AAA ACT TCC CTG	3420
Q T V D L R L A Q L E E L S N R M V N A	1160
CAG ACT GTT GAC CTT CGA CTT GCT CAG CTA GAA GAA TTA TCT AAC AGA ATG GTG AAT GCT	3480
L E N L A G I D R S D L I Q A R S R A S	1180
CTT GAA AAT CTT GCG GGA ATC GAC AGG TCT GAC CTG ATC CAG GCA CGG TCC CGG GCT TCT	3540
S E C E A T Y L L R Q S S I N S A D G Y	1200
TCT GAA TGT GAG GCA ACG TAT CTT CTC CGG CAA AGC AGC ATC AAT AGC GCT GAT GGC TAC	3600
S L Y R Y H F N G E E L L F E D T S L S	1220
AGC TTG TAT CGA TAT CAT TTT AAC GGA GAA GAG TTA TTT GAG GAT ACA TCT CTC TCC	3660
T S P G T G V R K K T C S F R I K E E K	1240
ACG TCA CCA GGG ACA GGA GTC AGG AAA ACC TGT TCC TTC CGT ATA AAG GAA GAG AAG	3720

FIG. 6F

D V K T H L V P E C Q N S L H L S L G T 1260
GAC GTG AAA ACG CAC CTA GTC CCA GAA TGT CAG AAC AGT CTT CAC CTT TCA CTG GGC ACA 3780

S T S A T P D G S H L A V D D L K H A E 1280
AGC ACA TCA GCA ACC CCA GAT GGC AGT CAC CTT GCA GTA GAT GAC TTA AAG AAC GCT GAA 3840

E S K L G P D I G I S K E D D E R Q T D 1300
GAG TCA AAA TTA GGT CCA GAT ATT GGG ATT TCA AAG GAA GAT GAT GAA AGA CAG ACA GAC 3900

S K K E E T I S P S L N K T D V I H G Q 1320
TCT AAA AAA GAA GAA ACT ATT TCC CCA AGT TTA AAT AAA ACA GAT GTG ATA CAT GGA CAG 3960

D K S D V Q N T Q L T V E T T N I E G T 1340
GAC AAA TCA GAT GTT CAA AAC ACT CAG CTA ACA GTG GAA ACG ACA AAT ATA GAA GGC ACT 4020

I S Y P L E E T K I T R Y F P D E T I N : 1360
ATT TCC TAT CCC CTG GAA GAA ACC AAA ATT ACA CGC TAT TTC CCC GAT GAA ACG ATC AAT 4080

A C K T M K S R S F V Y S R G R K L V G 1380
GCT TGT AAA ACA ATG AAG TCC AGA AGC TTC GTC TAT TCC CGG GGA AGA AAG CTG GTC GGT 4140

G V N Q D V E Y S S I T D Q Q L T T E W 1400
GGG GTT AAC CAG GAT GTA GAG TAC AGT TCA ATC ACG GAC CAG CAA TTG ACG ACG GAA TGG 4200

Q C Q V Q K I T R S H S T D I P Y I V S 1420
CAA TGC CAA GTT CAA AAG ATC ACG CGC TCT CAT AGC ACA GAT ATT CCT TAC ATT GTG TCG 4260

E A A V Q A E Q K E Q F A D M Q D E H H 1440
GAA GCT GCA GTG CAA GCT GAG CAA AAA GAG CAG TTT GCA GAT ATG CAA GAT GAA CAC CAT 4320

FIG. 6G

V	A	E	A	I	P	R	I	P	R	L	S	L	T	I	T	D	R	N	G	1460	
GTC	GCT	GAA	GCA	ATT	CCT	CGA	ATC	CCT	CGC	TTG	TCC	CTA	ACC	ATT	ACT	GAC	AGA	AAT	GGG	4380	
M	E	N	L	L	S	V	K	P	D	Q	T	L	G	F	P	S	L	R	S	1480	
ATG	GAA	AAC	TTA	CTG	TCT	GTG	AAG	CCA	GAT	CAA	ACT	TTG	GGA	TTC	CCA	TCT	CTC	AGG	TCA	4440	
K	S	L	H	G	H	P	R	N	V	K	S	I	Q	G	K	L	D	R	S	1500	
AAA	AGT	TTA	CAT	GGA	CAT	CCT	AGG	AAT	GTG	AAA	TCC	ATT	CAG	GGA	AAG	TTA	GAC	AGA	TCT	4500	
G	H	A	S	S	V	S	S	L	V	I	V	S	G	M	T	A	E	E	K	1520	
GGA	CAT	GCC	AGT	AGT	GTA	AGC	AGC	TTA	GTA	ATT	GTG	TCT	GGA	ATG	ACA	GCA	GAA	GAA	AAA	4560	
K	V	K	K	E	K	A	S	T	E	T	E	C	*	(SEQ ID NO: 9)							1533
AAG	GTT	AAG	AAA	GAG	AAA	GCT	TCC	ACA	GAA	ACT	GAA	TGC	TAG	TCT	GTGTTT	GTGTTT	CTTTT	TAATTTTT	4599		
TTTTTTTAAACAGTCAGAAACCCACTAATGGGTGCATCTTGGGCCCATCCCTAAACACATTTCCAAATTTCCCTAAAAACATTT																					

TCCCT (SEQ ID NO: 8)

FIG. 6H